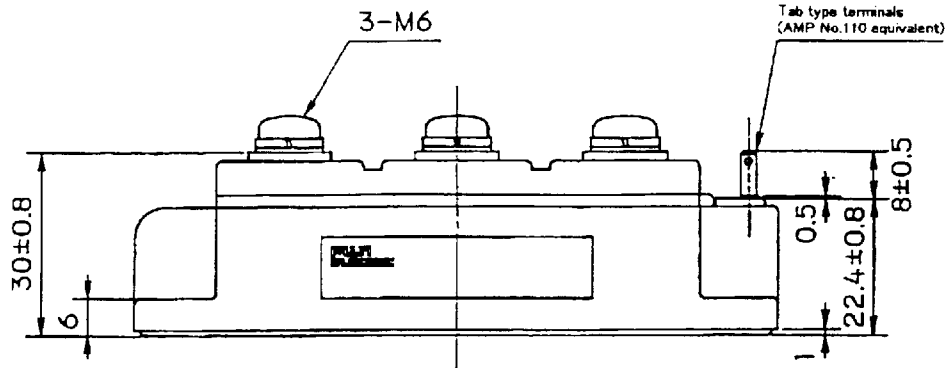
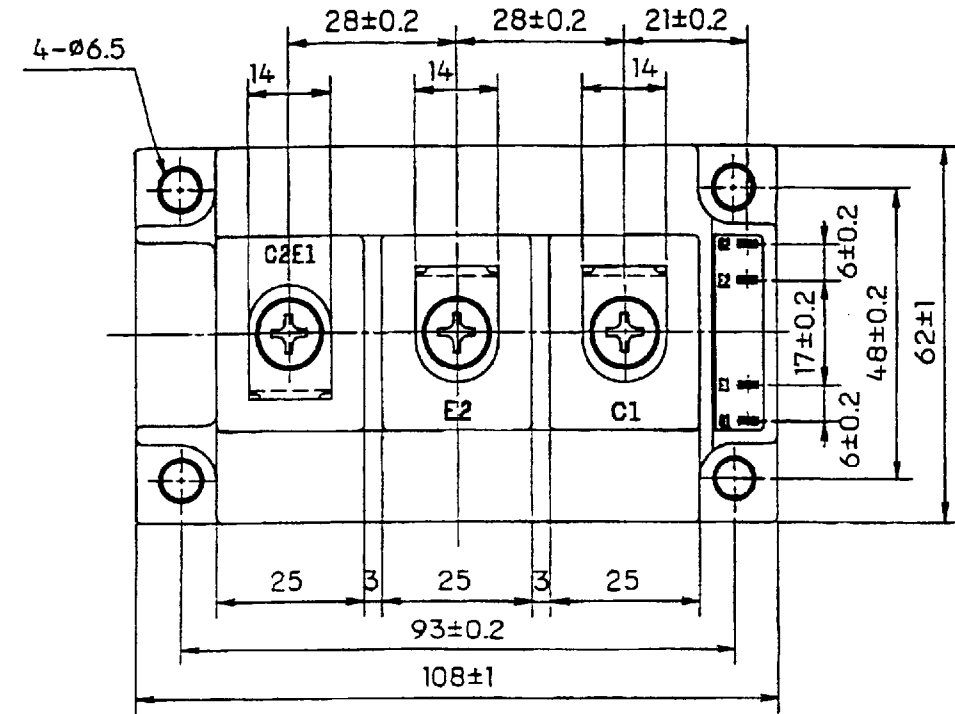


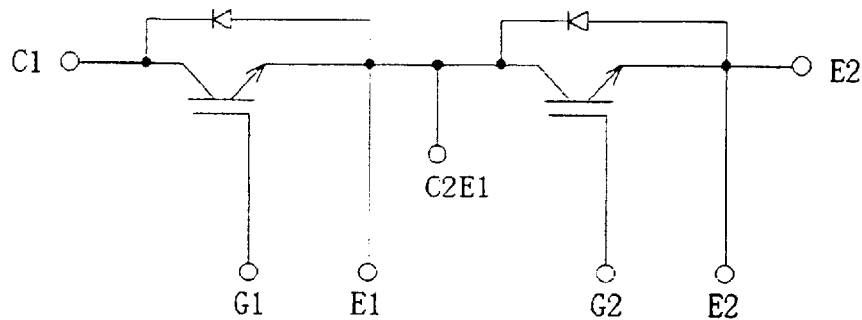
Target Specification of 2MBI150S-120

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1. Outline Drawing (Unit : mm)



2. Equivalent circuit



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DATE	NAME	APPROVED	Fuji Electric Co., Ltd.	
DRAWN Feb-11-'99	N. Arikawa		MT5F 9775 1/5	
CHECKED Feb-11-'99	S. Arikawa	T. Hayashi		
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3. Absolute Maximum Ratings (at Tc= 25°C unless otherwise specified)

Items	Symbols	Conditions	Maximum Ratings		Units
Collector-Emmitter voltage	V _{CE} S		1200		V
Gate-Emmitter voltage	V _{GE} S		±20		V
Collector current	I _c	Continuous	T _c =25°C	200	A
			T _c =80°C	150	
	I _c pulse	1ms	T _c =25°C	400	
			T _c =80°C	300	
			-I _c	150	
-I _c pulse	1ms	300			
Collector Power Dissipation	P _c	1 device	1000		W
Junction temperature	T _j		150		°C
Storage temperature	T _{stg}		-40~+125		°C
Isolation voltage ^(*)	V _{iso}	AC : 1min.	2500		V
Screw Torque	Mounting ^(*)		3.5		N·m
	Terminals ^(*)		4.5		

(*1) All terminals should be connected together when isolation test will be done.

(*2) Recommendable Value : 2.5~3.5 N·m (M5) or (M6)

(*3) Recommendable Value : 3.5~4.5 N·m (M6)

4. Electrical characteristics (at T_j= 25°C unless otherwise specified)

Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	Max.	
Zero gate voltage Collector current	I _{CE} S	V _{GE} = 0 V, V _{CE} = 1200 V			2.0	mA
Gate-Emmitter leakage current	I _{GES}	V _{CE} = 0 V, V _{GE} = ±20 V			0.4	μA
Gate-Emmitter threshold voltage	V _{GE(th)}	V _{CE} = 20 V, I _c = 150 mA	5.5	7.2	8.5	V
Collector-Emmitter saturation voltage	V _{CE(sat)}	V _{GE} = 15 V, T _j = 25 °C		2.3	2.6	V
		I _c = 150 A, T _j = 125 °C		2.8		
Input capacitance	C _{ies}	V _{GE} = 0 V		18000		pF
Output capacitance	C _{oes}	V _{CE} = 10 V		3750		
Reverse transfer capacitance	C _{res}	f = 1 MHz		3300		
Turn-on time	t _{on}	V _{cc} = 600 V			1.2	μs
	t _r	I _c = 150 A			0.6	
	t _{r(f)}	V _{GE} = ±15 V		0.1		
Turn-off time	t _{off}	R _G = 5.6 Ω			1.0	μs
	t _f			0.08	0.3	
Forward on voltage	V _F	I _F = 150 A, T _j = 25 °C		2.5	3.3	V
		T _j = 125 °C		2.1		
Reverse recovery time	t _{rr}	I _F = 150 A			0.35	μs

5. Thermal resistance characteristics

Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	Max.	
Thermal resistance (1 device)	R _{th(j-c)}	IGBT			0.125	°C/W
		FWD			0.36	
Contact Thermal resistance	R _{th(c-f)}	with Thermal Compound ^(*)		0.025		

* This is the value which is defined mounting on the additional cooling fin with thermal compound.

Note :

- This specification is only for technical considerations, and not for contract.
- This specification is subject to be changed without notices.

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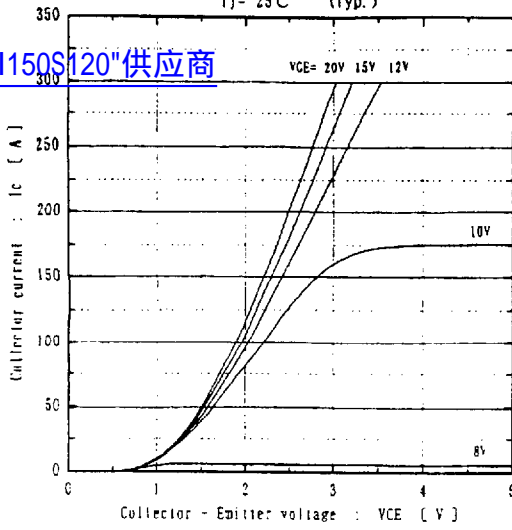
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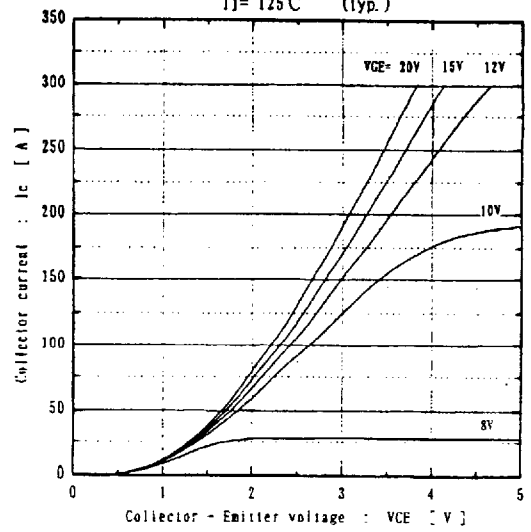
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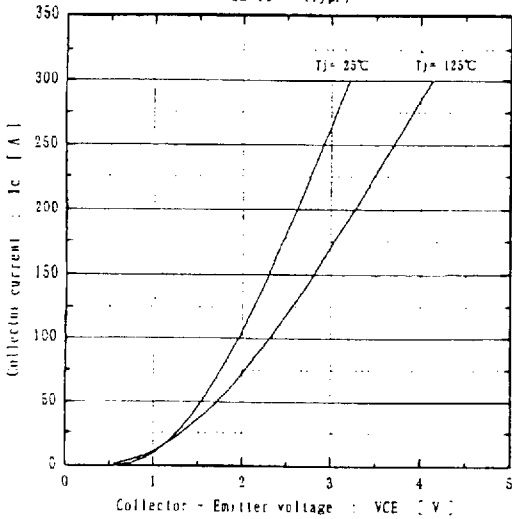
Collector current vs. Collector-Emmitter voltage
Tj= 25°C (typ.)



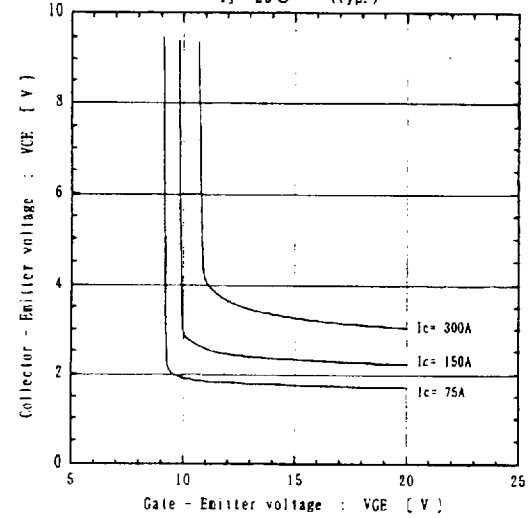
Collector current vs. Collector-Emmitter voltage
Tj= 125°C (typ.)



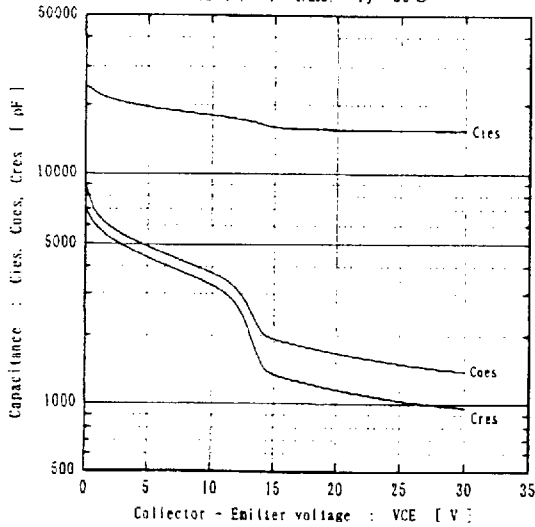
Collector current vs. Collector-Emmitter voltage
VGE=15V (typ.)



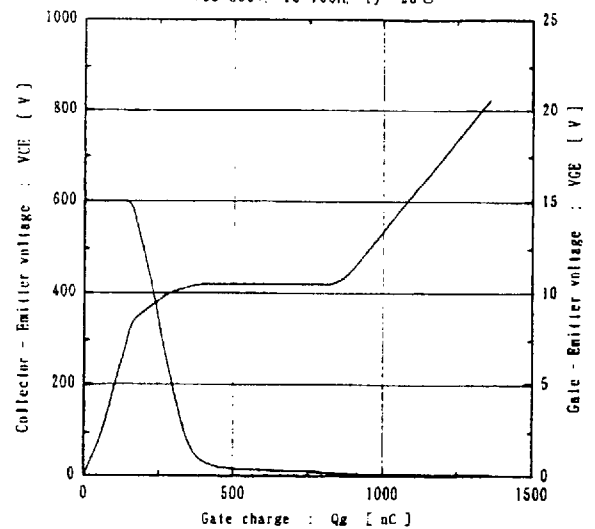
Collector-Emmitter voltage vs. Gate-Emmitter voltage
Tj= 25°C (typ.)



Capacitance vs. Collector-Emmitter voltage (typ.)
VGE=0V, f=1MHz, Tj= 25°C



Dynamic Gate charge (typ.)
Vcc=600V, Ic=150A, Tj= 25°C



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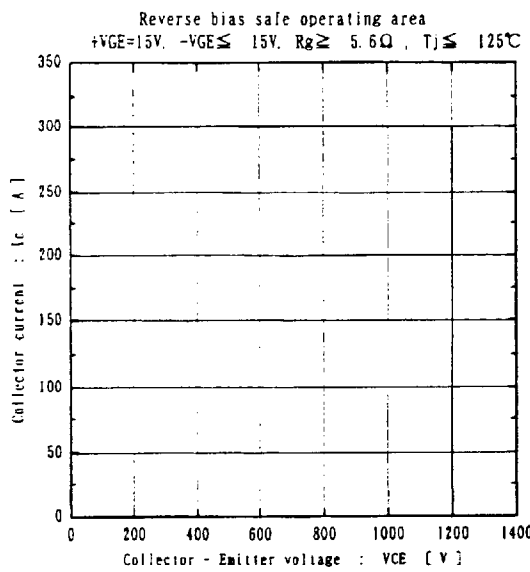
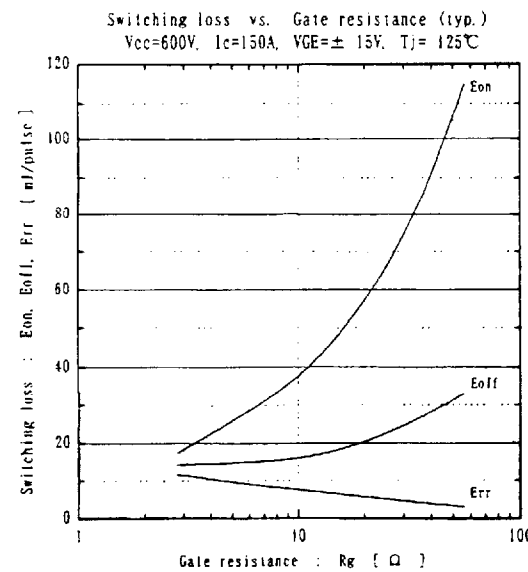
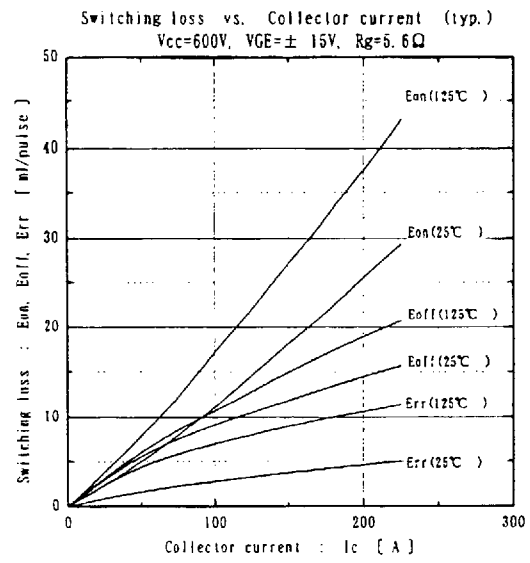
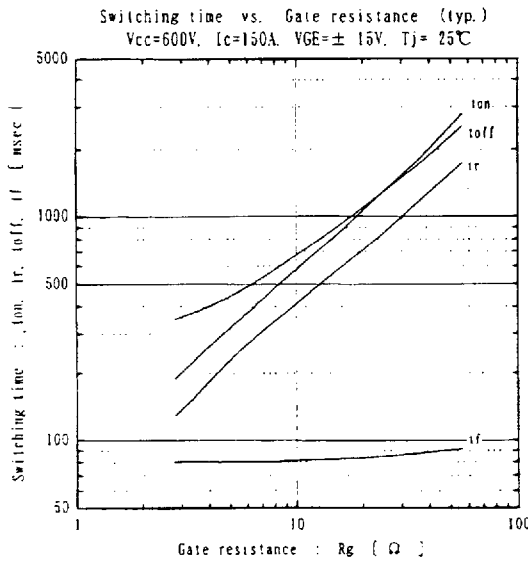
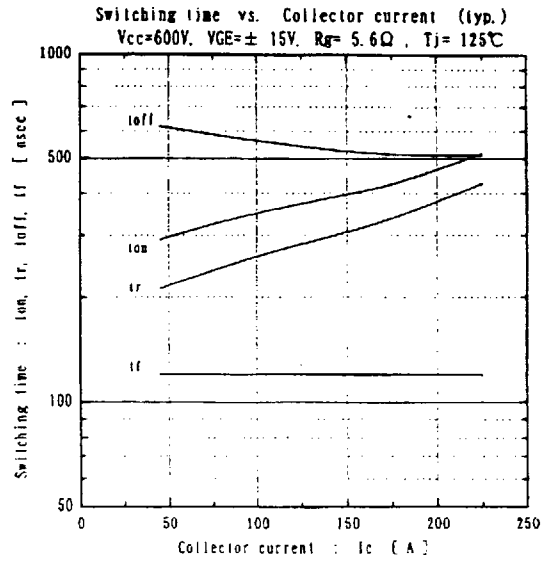
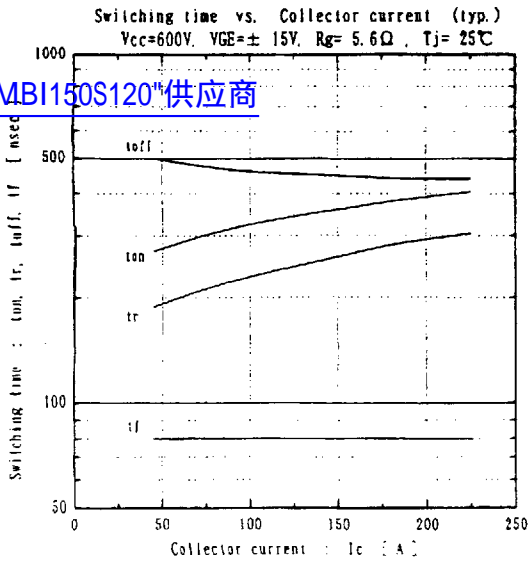
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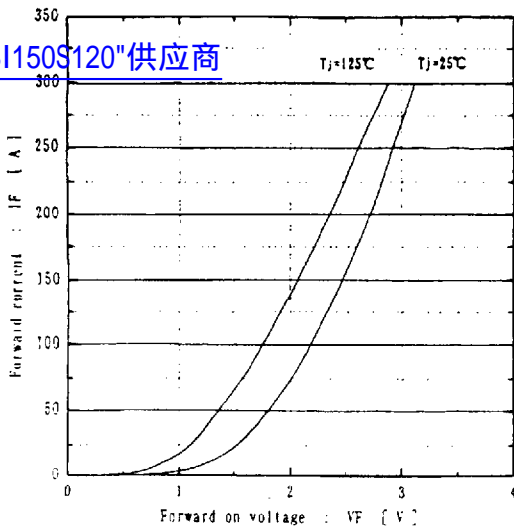
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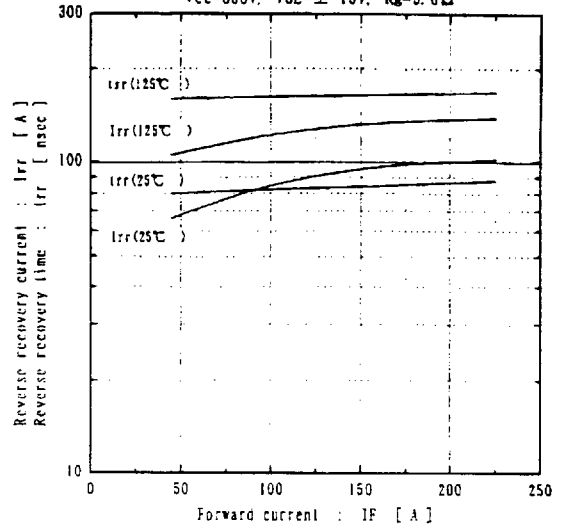
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Forward current vs. Forward on voltage (typ.)

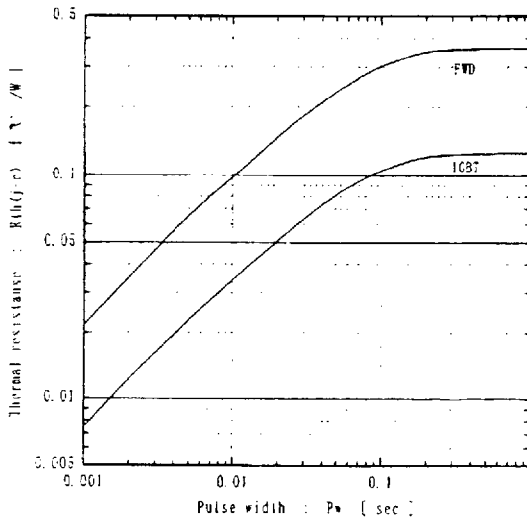


Reverse recovery characteristics (typ.)

Vcc=600V, VGE=±15V, Rg=5.6Ω

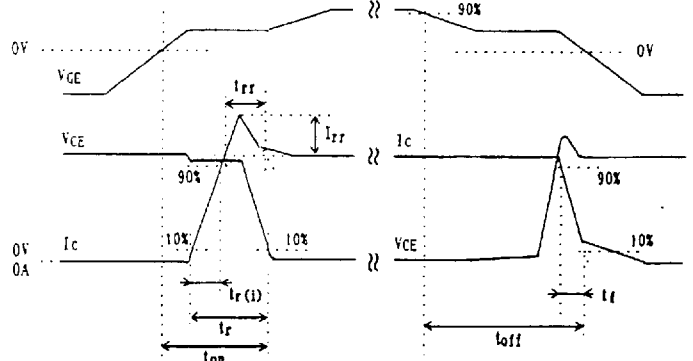
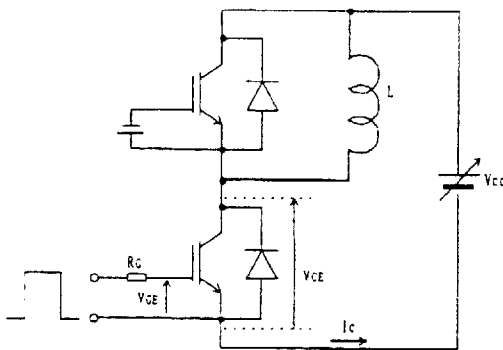


Transient thermal resistance



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Definitions of switching time



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